# Product Lifecycle

## Purpose

Have you ever wondered how the components in your computer, television, or any other product that you may use on a daily basis actually become finished products? For example, the plastic case that surrounds your computer or television is not mined from the earth; it begins as crude oil. How does a viscous, gooey substance such as oil become a plastic shell for consumer electronics? And, what happens to that plastic case once it has fulfilled its usefulness?

All things have a beginning and an end. With respect to consumer products, engineers refer to this as a product lifecycle. Raw materials are extracted from the earth, processed into a more useable form, manufactured into a consumer product that serves a specific purpose, sold, used for a certain amount of time, and either thrown away or recycled.

## Equipment

- Computer
- Microsoft® Word
- Photostory Software
- Internet access
- Library resources

## Procedure

*In this activity, you will select a consumer product and research its lifecycle from the beginning to end.

*In groups of two, pick a consumer product that is used everyday. The product must be instructor approved.

*Investigate the lifecycle of this product as discussed in the **Global and Human Impacts** PowerPoint® presentation.

*Create a timeline of your product, using PowerPoint® or Photostory, which discusses the five steps of the product lifecycle. Also, using the internet and resources, investigate how this material can be recycled and reused after it has outlived its usefulness.

*Include at least five different cited sources using MLA style on the final slide in your presentation using Noodletools.

*A product lifecycle is when a product goes through the stages from concept and use to eventual withdrawal from the market place*

# The Steps of a Product Lifecycle includes:

## Step 1: Raise and Extract

*How is the natural resources extracted from the earth or its atmosphere?

## Step 2: Process

*How is the raw material processed or refined?
*What energy is required for the raw material to be processed or refined?

## Step 3: Manufacture

*How is the product manufactured? How is the product made?
*What energy is required to process or refine the materials through the manufacturing and assembly process?

## Step 4: Use

*How is the product used by consumers?
*What is the target market for the product? (Who is most likely to use the product?)
*How long does the product stay in use? (Including the ability to be refurbished, reused, or repaired?)

## Step 5: Dispose

*When the product is no longer of use to us, how do we “get rid of it”?
*Is the product recyclable?
*Is the product biodegradable when placed in a landfill? (How long does it take disposed product to degrade?)

## GRADING RUBRIC

| CRITERIA | POSSIBLE POINTS | POINTS EARNED |
|---|---|---|
| ***Project Content:**<br>*The project includes the following:*<br>-Product selection: Introduction & description of the product<br>-5 Steps of the Product Lifecycle<br>-Personal Reflection of the product lifecycle | **60** | |
| ***Project Presentation:**<br>- Presentation is clear and well organized<br>- All 5 steps are well presented<br>- Images are clear and represents of the content of the presentation<br>- Presenters speaks clearly and the presentation is understandable | **20** | |
| ***Project Presentation Template:**<br>- Template is aligned with the Photostory presentation<br>- Template is completed and submitted to the instructor with all content and references | **10** | |
| ***Project References:**<br>- All content and images are cited using Noodletools (in the proper format)<br>- Project contains at least 5 references | **10** | |
| **TOTAL SCORE** | **100** | |

### Conclusion Questions:

1. What is meant by *product lifecycle*?
2. Why is it important for companies who make products to research and determine a product's potential lifecycle?
3. What would you change about your product? Why?
4. Do you think your product will evolve or become obsolete over time? Why?
5. What is a trade-off?
6. Do you think that trade-offs were made during the design phase of your product?
7. Why is it important to recycle?
8. How do product designers play a role in recycling?
9. What role does society play in the recycling effort?
10. What can you do to help?